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Sea Grant
Rhode Island

IMPACT

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Making a Difference In Reducing the Risk of Coastal Hazards

The Need

In the past five years alone, natural hazard disasters have caused billions of dollars of damage across the United States. Rhode Island has fared relatively well in light of these numbers, but has not remained unscathed. In 1991, Hurricane Bob resulted in over \$60 million worth of marine losses to the Northeast. Over the past century, hurricanes and other storms have destroyed thousands of homes in the state, racked up hundreds of millions of dollars in damages, and killed hundreds of people.

Many of these losses could have been minimized had hazard mitigation strategies been in place before the natural disasters hit. With over 400 miles of shoreline, Rhode Island is particularly vulnerable to coastal flooding, as well as to other associated effects of hurricanes and nor'easters.

Over the course of the past 40 years, Rhode Island's coastal population has increased dramatically. The value of insured coastal property in Rhode Island has increased 153 percent between 1980 and 1993—to \$84 billion. Many of these property owners have no experience with preventing damage or coping with coastal hazards.

Sea Grant Response

Rhode Island Sea Grant has helped provide the core of existing knowledge of beach processes in the state by funding University of Rhode Island research. Since 1962, transect studies along the barrier and headland beaches of Rhode Island's southern shore have

tracked erosion and deposition of sand on the beaches themselves, on the backs of the barriers, on the uplands behind the headlands, and in the coastal ponds.

Sea Grant also funded a survey of the susceptibility of the Narragansett Bay shoreline to erosion and a risk assessment of flooding in Narragansett Bay.

The university serves as the primary source of coastal processes information in the state, and researchers and marine advisory personnel have become key players in planning efforts to mitigate coastal hazards. In its capacity as a source of coastal research, Sea Grant has also worked closely with the state Coastal Resources Management Council, the Rhode Island Emergency Management Agency (RIEMA), Region I of the Federal Emergency Management Agency, and the Hazards

Office at NOAA's Office of Ocean and Coastal Resource Management. Currently, Sea Grant and RIEMA are working with coastal communities to adopt actions that will mitigate risks from natural disasters.

Sea Grant has also responded directly with hazard mitigation initiatives related to management, including development of hazard mitigation guidelines for harbor managers and current efforts to develop community-based risk assessment and hazard mitigation strategies.

Results

- As a direct result of Sea Grant input, state Coastal Resources Management Council policies have been modified to be more explicit, and implementation has become more effective.
- Sea Grant researchers and marine advisory service staff have also worked with municipalities on beach restoration, shoreline management, and construction of new town facilities.
- Sea Grant research has been used by the Army Corps of Engineers to guide preliminary plans for replenishment of Misquamicut Beach in southern Rhode Island.
- The state looks to Sea Grant to help make management decisions about dealing with storm overwash at state beaches and parks.
- Municipal managers around the state, as well as participants in international coastal management courses at the university, have been trained by Sea Grant personnel, using Sea Grant research on coastal processes.
- Sea Grant recommendations prompted RIEMA to enhance membership on its hazard mitigation committee, which now participates in proactive, pre-disaster efforts at hazard mitigation.
- Sea Grant has developed pilot regional working groups of local officials to develop local risk assessments and community-based hazard mitigation strategies.
- Sea Grant has initiated a partnership with the insurance industry to develop industry-based incentives to reduce loss.

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